

0590  
0320

#4



ENTERED

OIPE

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/023,909A

DATE: 03/27/2002

TIME: 14:29:50

Input Set : A:\C0139-7058SEQ.txt

Output Set: N:\CRF3\03272002\J023909A.raw

3 <110> APPLICANT: Davis, Heather L.  
 4 Schorr, Joachim  
 5 Krieg, Arthur M.

W--> 6 <120> TITLE OF INVENTION: Use of Nucleic Acids Containing  
 W--> 7 Unmethylated CpG Dinucleotide as an Adjuvant

9 <130> FILE REFERENCE: C1039/7058/HCL

W--> 10 <140> CURRENT APPLICATION NUMBER: A  
 11 <141> CURRENT FILING DATE: 2001-12-18  
 13 <150> PRIOR APPLICATION NUMBER: US 09/325,193  
 14 <151> PRIOR FILING DATE: 1999-06-03  
 16 <150> PRIOR APPLICATION NUMBER: US 09/154,614  
 17 <151> PRIOR FILING DATE: 1998-09-16  
 18 <150> PRIOR APPLICATION NUMBER: PCT/US98/04703  
 19 <151> PRIOR FILING DATE: 1998-03-10  
 20 <150> PRIOR APPLICATION NUMBER: US 60/040,376  
 21 <151> PRIOR FILING DATE: 1997-03-10

W--> 22 <160> NUMBER OF SEQ ID: 98  
 23 <170> SOFTWARE: FastSEQ for Windows Version 3.0

W--> 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 15  
 26 <212> TYPE: DNA  
 27 <213> ORGANISM: Artificial Sequence

W--> 28 <220> FEATURE:  
 29 <223> OTHER INFORMATION: Synthetic Oligonucleotide

31 <400> SEQUENCE: 1  
 32 gctagacggtt agcgt 15  
 33 <210> SEQ ID NO: 2  
 34 <211> LENGTH: 15  
 35 <212> TYPE: DNA  
 36 <213> ORGANISM: Artificial Sequence

W--> 37 <220> FEATURE:  
 38 <223> OTHER INFORMATION: Synthetic Oligonucleotide

40 <400> SEQUENCE: 2  
 41 gctagatggtt agcgt 15  
 42 <210> SEQ ID NO: 3  
 43 <211> LENGTH: 15  
 44 <212> TYPE: DNA  
 45 <213> ORGANISM: Artificial Sequence

W--> 46 <220> FEATURE:  
 47 <223> OTHER INFORMATION: Synthetic Oligonucleotide

W--> 49 <220> FEATURE:  
 50 <221> NAME/KEY: modified\_base  
 51 <222> LOCATION: (7)...(7)

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/10/023,909A

DATE: 03/27/2002  
 TIME: 14:29:50

Input Set : A:\C0139-7058SEQ.txt  
 Output Set: N:\CRF3\03272002\J023909A.raw

```

52 <223> OTHER INFORMATION: m5c
W--> 53 <400> SEQUENCE: 3                                     15
54 gctagacgtt agcgt
55 <210> SEQ ID NO: 4
56 <211> LENGTH: 15
57 <212> TYPE: DNA
58 <213> ORGANISM: Artificial Sequence
W--> 59 <220> FEATURE:
60 <223> OTHER INFORMATION: Synthetic Oligonucleotide
W--> 62 <220> FEATURE:
63 <221> NAME/KEY: modified_base
64 <222> LOCATION: (13)...(13)
65 <223> OTHER INFORMATION: m5c
W--> 66 <400> SEQUENCE: 4                                     15
67 gctagacgtt agcgt
68 <210> SEQ ID NO: 5
69 <211> LENGTH: 15
70 <212> TYPE: DNA
71 <213> ORGANISM: Artificial Sequence
W--> 72 <220> FEATURE:
73 <223> OTHER INFORMATION: Synthetic Oligonucleotide
75 <400> SEQUENCE: 5                                         15
76 gcatgacgtt gagct
77 <210> SEQ ID NO: 6
78 <211> LENGTH: 20
79 <212> TYPE: DNA
80 <213> ORGANISM: Artificial Sequence
W--> 81 <220> FEATURE:
82 <223> OTHER INFORMATION: Synthetic Oligonucleotide
84 <400> SEQUENCE: 6                                         20
85 atggaaggctc cagcgttctc
86 <210> SEQ ID NO: 7
87 <211> LENGTH: 20
88 <212> TYPE: DNA
89 <213> ORGANISM: Artificial Sequence
W--> 90 <220> FEATURE:
91 <223> OTHER INFORMATION: Synthetic Oligonucleotide
93 <400> SEQUENCE: 7                                         20
94 atcgactctc gagcgttctc
95 <210> SEQ ID NO: 8
96 <211> LENGTH: 20
97 <212> TYPE: DNA
98 <213> ORGANISM: Artificial Sequence
W--> 99 <220> FEATURE:
100 <223> OTHER INFORMATION: Synthetic Oligonucleotide
W--> 102 <220> FEATURE:
103 <221> NAME/KEY: modified_base
104 <222> LOCATION: (3)...(3)
105 <223> OTHER INFORMATION: m5c

```

## RAW SEQUENCE LISTING

DATE: 03/27/2002

PATENT APPLICATION: US/10/023,909A

TIME: 14:29:50

Input Set : A:\C0139-7058SEQ.txt

Output Set: N:\CRF3\03272002\J023909A.raw

```

W--> 106 <400> SEQUENCE: 8
      107 atcgactctc gagcgttctc
      108 <210> SEQ ID NO: 9
      109 <211> LENGTH: 20
      110 <212> TYPE: DNA
      111 <213> ORGANISM: Artificial Sequence
W--> 112 <220> FEATURE:
      113 <223> OTHER INFORMATION: Synthetic Oligonucleotide
W--> 115 <220> FEATURE:
      116 <221> NAME/KEY: modified_base
      117 <222> LOCATION: (18)...(18)
      118 <223> OTHER INFORMATION: m5c
W--> 119 <400> SEQUENCE: 9
      120 atcgactctc gagcgttctc
      121 <210> SEQ ID NO: 10
      122 <211> LENGTH: 20
      123 <212> TYPE: DNA
      124 <213> ORGANISM: Artificial Sequence
W--> 125 <220> FEATURE:
      126 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      128 <400> SEQUENCE: 10
      129 atggaaggtc caacgttctc
      130 <210> SEQ ID NO: 11
      131 <211> LENGTH: 20
      132 <212> TYPE: DNA
      133 <213> ORGANISM: Artificial Sequence
W--> 134 <220> FEATURE:
      135 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      137 <400> SEQUENCE: 11
      138 gagaacgctg gaccttccat
      139 <210> SEQ ID NO: 12
      140 <211> LENGTH: 20
      141 <212> TYPE: DNA
      142 <213> ORGANISM: Artificial Sequence
W--> 143 <220> FEATURE:
      144 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      146 <400> SEQUENCE: 12
      147 gagaacgctc gaccttccat
      148 <210> SEQ ID NO: 13
      149 <211> LENGTH: 20
      150 <212> TYPE: DNA
      151 <213> ORGANISM: Artificial Sequence
W--> 152 <220> FEATURE:
      153 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      155 <400> SEQUENCE: 13
      156 gagaacgctc gaccttcgat
      157 <210> SEQ ID NO: 14
      158 <211> LENGTH: 20
      159 <212> TYPE: DNA

```

## RAW SEQUENCE LISTING

DATE: 03/27/2002

PATENT APPLICATION: US/10/023,909A

TIME: 14:29:50

Input Set : A:\C0139-7058SEQ.txt

Output Set: N:\CRF3\03272002\J023909A.raw

```

160 <213> ORGANISM: Artificial Sequence
W--> 161 <220> FEATURE:
162 <223> OTHER INFORMATION: Synthetic Oligonucleotide
W--> 164 <220> FEATURE:
165 <221> NAME/KEY: modified_base
166 <222> LOCATION: (14)...(14)
167 <223> OTHER INFORMATION: m5c
W--> 168 <400> SEQUENCE: 14
169   gagaacgctg gaccttccat                                20
170 <210> SEQ ID NO: 15
171 <211> LENGTH: 20
172 <212> TYPE: DNA
173 <213> ORGANISM: Artificial Sequence
W--> 174 <220> FEATURE:
175 <223> OTHER INFORMATION: Synthetic Oligonucleotide
177 <400> SEQUENCE: 15
178   gagaacgatg gaccttccat                                20
179 <210> SEQ ID NO: 16
180 <211> LENGTH: 20
181 <212> TYPE: DNA
182 <213> ORGANISM: Artificial Sequence
W--> 183 <220> FEATURE:
184 <223> OTHER INFORMATION: Synthetic Oligonucleotide
186 <400> SEQUENCE: 16
187   gagaacgctc cagcactgat                                20
188 <210> SEQ ID NO: 17
189 <211> LENGTH: 20
190 <212> TYPE: DNA
191 <213> ORGANISM: Artificial Sequence
W--> 192 <220> FEATURE:
193 <223> OTHER INFORMATION: Synthetic Oligonucleotide
195 <400> SEQUENCE: 17
196   tccatgtcgg tcctgatgct                                20
197 <210> SEQ ID NO: 18
198 <211> LENGTH: 20
199 <212> TYPE: DNA
200 <213> ORGANISM: Artificial Sequence
W--> 201 <220> FEATURE:
202 <223> OTHER INFORMATION: Synthetic Oligonucleotide
W--> 204 <220> FEATURE:
205 <221> NAME/KEY: modified_base
206 <222> LOCATION: (12)...(12)
207 <223> OTHER INFORMATION: m5c
W--> 208 <400> SEQUENCE: 18
209   tccatgtcgg tcctgatgct                                20
210 <210> SEQ ID NO: 19
211 <211> LENGTH: 20
212 <212> TYPE: DNA
213 <213> ORGANISM: Artificial Sequence

```

## RAW SEQUENCE LISTING

DATE: 03/27/2002

PATENT APPLICATION: US/10/023,909A

TIME: 14:29:51

Input Set : A:\C0139-7058SEQ.txt

Output Set: N:\CRF3\03272002\J023909A.raw

```

W--> 214 <220> FEATURE:
      215 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      217 <400> SEQUENCE: 19
      218 tccatgacgt tcctgatgct 20
      219 <210> SEQ ID NO: 20
      220 <211> LENGTH: 20
      221 <212> TYPE: DNA
      222 <213> ORGANISM: Artificial Sequence

W--> 223 <220> FEATURE:
      224 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      226 <400> SEQUENCE: 20
      227 tccatgtcgg tcctgctgat 20
      228 <210> SEQ ID NO: 21
      229 <211> LENGTH: 8
      230 <212> TYPE: DNA
      231 <213> ORGANISM: Artificial Sequence

W--> 232 <220> FEATURE:
      233 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      235 <400> SEQUENCE: 21
      236 tcaacggt 8
      237 <210> SEQ ID NO: 22
      238 <211> LENGTH: 8
      239 <212> TYPE: DNA
      240 <213> ORGANISM: Artificial Sequence

W--> 241 <220> FEATURE:
      242 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      244 <400> SEQUENCE: 22
      245 tcagcgct 8
      246 <210> SEQ ID NO: 23
      247 <211> LENGTH: 8
      248 <212> TYPE: DNA
      249 <213> ORGANISM: Artificial Sequence

W--> 250 <220> FEATURE:
      251 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      253 <400> SEQUENCE: 23
      254 tcatcgat 8
      255 <210> SEQ ID NO: 24
      256 <211> LENGTH: 8
      257 <212> TYPE: DNA
      258 <213> ORGANISM: Artificial Sequence

W--> 259 <220> FEATURE:
      260 <223> OTHER INFORMATION: Synthetic Oligonucleotide
      262 <400> SEQUENCE: 24
      263 tcttcgaa 8
      264 <210> SEQ ID NO: 25
      265 <211> LENGTH: 7
      266 <212> TYPE: DNA
      267 <213> ORGANISM: Artificial Sequence

W--> 268 <220> FEATURE:

```

## VERIFICATION SUMMARY

DATE: 03/27/2002

PATENT APPLICATION: US/10/023,909A

TIME: 14:29:52

Input Set : A:\C0139-7058SEQ.txt

Output Set: N:\CRF3\03272002\J023909A.raw

L:6 M:283 W: Missing Blank Line separator, <120> field identifier  
L:10 M:283 W: Missing Blank Line separator, <140> field identifier  
L:22 M:283 W: Missing Blank Line separator, <160> field identifier  
L:24 M:283 W: Missing Blank Line separator, <210> field identifier  
L:28 M:283 W: Missing Blank Line separator, <220> field identifier  
L:37 M:283 W: Missing Blank Line separator, <220> field identifier  
L:46 M:283 W: Missing Blank Line separator, <220> field identifier  
L:53 M:283 W: Missing Blank Line separator, <400> field identifier  
L:59 M:283 W: Missing Blank Line separator, <220> field identifier  
L:66 M:283 W: Missing Blank Line separator, <400> field identifier  
L:72 M:283 W: Missing Blank Line separator, <220> field identifier  
L:81 M:283 W: Missing Blank Line separator, <220> field identifier  
L:90 M:283 W: Missing Blank Line separator, <220> field identifier  
L:99 M:283 W: Missing Blank Line separator, <220> field identifier  
L:106 M:283 W: Missing Blank Line separator, <400> field identifier  
L:112 M:283 W: Missing Blank Line separator, <220> field identifier  
L:119 M:283 W: Missing Blank Line separator, <400> field identifier  
L:125 M:283 W: Missing Blank Line separator, <220> field identifier  
L:134 M:283 W: Missing Blank Line separator, <220> field identifier  
L:143 M:283 W: Missing Blank Line separator, <220> field identifier  
L:152 M:283 W: Missing Blank Line separator, <220> field identifier  
L:161 M:283 W: Missing Blank Line separator, <220> field identifier  
L:168 M:283 W: Missing Blank Line separator, <400> field identifier  
L:174 M:283 W: Missing Blank Line separator, <220> field identifier  
L:183 M:283 W: Missing Blank Line separator, <220> field identifier  
L:192 M:283 W: Missing Blank Line separator, <220> field identifier  
L:201 M:283 W: Missing Blank Line separator, <220> field identifier  
L:208 M:283 W: Missing Blank Line separator, <400> field identifier  
L:214 M:283 W: Missing Blank Line separator, <220> field identifier  
L:223 M:283 W: Missing Blank Line separator, <220> field identifier  
L:232 M:283 W: Missing Blank Line separator, <220> field identifier  
L:241 M:283 W: Missing Blank Line separator, <220> field identifier  
L:250 M:283 W: Missing Blank Line separator, <220> field identifier  
L:259 M:283 W: Missing Blank Line separator, <220> field identifier  
L:268 M:283 W: Missing Blank Line separator, <220> field identifier  
L:277 M:283 W: Missing Blank Line separator, <220> field identifier  
L:286 M:283 W: Missing Blank Line separator, <220> field identifier  
L:295 M:283 W: Missing Blank Line separator, <220> field identifier  
L:304 M:283 W: Missing Blank Line separator, <220> field identifier  
L:313 M:283 W: Missing Blank Line separator, <220> field identifier  
L:322 M:283 W: Missing Blank Line separator, <220> field identifier  
L:331 M:283 W: Missing Blank Line separator, <220> field identifier  
L:340 M:283 W: Missing Blank Line separator, <220> field identifier  
L:347 M:283 W: Missing Blank Line separator, <400> field identifier  
L:353 M:283 W: Missing Blank Line separator, <220> field identifier  
L:360 M:283 W: Missing Blank Line separator, <400> field identifier  
L:366 M:283 W: Missing Blank Line separator, <220> field identifier  
L:375 M:283 W: Missing Blank Line separator, <220> field identifier

VERIFICATION SUMMARY

PATENT APPLICATION: US/10/023,909A

DATE: 03/27/2002

TIME: 14:29:52

Input Set : A:\C0139-7058SEQ.txt

Output Set: N:\CRF3\03272002\J023909A.raw

L:384 M:283 W: Missing Blank Line separator, <220> field identifier

L:393 M:283 W: Missing Blank Line separator, <220> field identifier